DIVERSIFIED, INTEGRATED AND CROSS-BORDER ACQUISITIONS AND FIRM PERFORMANCE: A COMPARISON OF FAMILY AND NON-FAMILY ITALIAN LISTED FIRMS

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Abstract

In family firms, the principal-agent relationship and the steward role of family managers are determinants for external growth and acquisition target selection. In fact, some acquisitions are better for the family's need for risk reduction and company preservation. We aim to verify if family involvement in ownership and management influences firms' acquisition propensity, type of strategy, and post-deal performance. We develop an empirical analysis for a sample of 141 Italian listed companies during 2005–2011, which includes the global financial crisis. Our results reveal that Italian listed family firms have lower acquisition propensity than non-family firms because of family involvement in ownership and executive committees. Especially, diversifying strategies are less pursued by family firms, and this is corroborated when family ownership increases. However, while family firms do not differ from non-family firms on post-acquisition performance, a moderating role of family firms and family ownership does exist for diversified acquisitions and performance.

Keywords: Family Firm, Family Involvement, M&A Propensity, M&A Type, Performance, Italy

1. INTRODUCTION

Agency theorists interpret companies' strategies by analyzing the conflict arising from the separation between ownership and control (Shleifer & Vishny, 1997). In fact, managers have a strong motivation to perform active acquisitions (mergers and acquisitions, M&As) (Miller, Le Breton-Miller, & Lester, 2010), drawing on the company's liquidity instead of distributing it to owners (Jensen, 1986) and thereby conflicting with shareholders' interests (Jensen & Meckling, 1976). In so doing, managers aim to increase their personal prestige and fees

(Wright, Kroll, Lado, & Van Ness, 2002) and to achieve private benefits (Ben-Amar & André, 2006). However, a high ownership concentration and owner-manager identification mitigate principal-agent conflicts. Both characteristics are present in family firms (FFs) (Caprio, Croci, & Del Giudice, 2011), as the family members are usually involved in ownership and management (Gnan & Songini, 2014).

In contrast to agency theory, stewardship theory acknowledges the reduction of corporate governance conflicts in FFs (Davis, Schoorman, & Donaldson, 1997). A high level of family involvement (FI) facilitates the overlap between a firm's and a

managers' objectives (Zahra, 2005). From this perspective, managers are not self-interested but follow the company's and the family's interest (Le Breton-Miller & Miller, 2009).

Although the two theories interpret managers' behavior by relying on different assumptions, they converge in the case of FFs, as they assume alignment between the objectives of the family, company, and management (Chrisman, Chua, Kellermanns, & Chang, 2007). In this view, the strategic objectives of FFs, pursued via M&As, can diverge from those of other companies owing to the different level of family involvement ownership (FIO) and family involvement in management (FIM) (Chung, 2014).

In addition, FFs' particular connotation represents a distinctive condition in the choice of strategy types (Oesterle, Richta, & Fisch, 2013), such as diversification, concentration, or internationalization. In that sense, some acquisition strategies better represent a corporate culture aimed at risk reduction and company preservation (Chen & Yu, 2012). In fact, some scholars consider diversifying or cross-border acquisitions as a way to reduce risk and create value (Miller et al., 2010; Feito-Ruiz & Menéndez-Requejo, 2012), while others view these strategies as a way to enhance professional managers' prestige (Oesterle et al., 2013).

Although previous literature provides some evidence of the FI–internationalization linkage, this issue remains poorly explored (Zahra, 2003). Recalling the stagnation view of family members, some scholars hypothesize a different internationalization propensity for FFs compared to non-family firms (NFFs) (Segaro, 2010; Calabrò, Torchia, Pukall, & Mussolino, 2013). However, studies on this topic present contrasting evidence (Zahra, 2003; Sciascia, Mazzola, Astrachan, & Pieper, 2012) and ambiguous results with regard to these strategies' goals (Miller et al., 2010).

In addition, agency conflict reduction arising from FI may be a determining factor for post-deal performance achievement. Capital markets positively receive family owner-manager alignment, resulting in better post-M&A performance (Anderson & Reeb, 2003a). The alignment of interests ensures that family managers aim to select only good acquisitions (Bouzgarrou & Navatte, 2013).

Despite the increasing attention in the literature to FFs' propensity to make acquisitions, the influence of the degree of FI in acquisition decisions is not clearly defined (Miller et al., 2010), even though this influence is supposed to be a crucial factor for some strategic choices (Calabrò et al., 2013). The research gap appears wider if we consider that the literature focuses less on the relationship between ownership, FI, and acquisition types. Following Oesterle et al. (2013), we recognize the importance of investigating, from an agency perspective, the linkage between ownership identity and implemented strategies. In that regard, we focus both on the different types of behavior of FFs and NFFs and on the impact of the degree of FI on diversification, concentration, and internationalization strategies. To the best of our knowledge, there are no studies that investigate the relationship between concentrated acquisitions and FI. Moreover, considering the impact of FI on cross-border strategies, the literature is based mainly on a concept of internationalization that does not directly refer to cross-border acquisitions (i.e., exports,

imports, and foreign distribution) (Sciascia et al., 2012; Calabrò et al., 2013; Mitter, Duller, & Feldbauer-Durstmüller, 2014; Zhang, Ma, Wang, Li, & Huo, 2016). Differently to prior research, the aims of this study is to deepen that relationship, contextualizing the analysis by using M&As. Research on FFs' cross-border acquisitions is not very thorough (Shimizu, Hitt, Vaidyanath, & Pisano, 2000; Zaefarian, Eng, & Tasavori, 2016), although these operations involve some important implications that may reveal how the particular nature of FFs can favor or hinder such complex growth processes. Further in-depth analysis is required on the relationship between the family nature of the company and post-acquisition performance since previous studies present mixed results (Feito-Ruiz & Menéndez-Requejo, 2010). In fact, the research is mainly oriented toward post-announcement market performance (e.g. De Beule & Sels, 2016). Therefore, the literature regarding the impact of FI on both accounting and market post-deal performance is scant.

Starting from the assumptions of Berrone et al. (2012), stating that companies' ownership structure influences the decisions regarding M&A activity, and of Caprio et al. (2011), postulating that FI is a particular determinant of strategic choices, we first investigate whether FFs have a different acquisition propensity to NFFs and evaluating the role of FIO and FIM in FF acquisition strategies. Second, we make assumptions about whether FFs and NFFs present different attitudes toward diversification, concentration, and internationalization strategies pursued through M&As, and the sign of the relationship between FI and M&A type concluded by FFs. Finally, we investigate whether being an FF may influence the acquirers' post-deal performance, from both a market and financial perspective, and if these performances are related to FI.

Therefore, our main research question is: do FFs differ from NFFs as to M&A propensity, type, and performance?

Our empirical analysis investigates these issues by adopting a sample of 141 Italian listed companies from 2005 to 2011, which includes the strongest effects of the global financial crisis, whereas most of the prior studies were developed under normal market conditions. The financial crisis may play an important role in the abovementioned strategic choices and in post-acquisition performance, for example, by limiting access to funding sources (Kestens, Van Cauwenberge, & Vander Bauwhede, 2012).

The remainder of the paper is structured as follows. Section 2 shows the main research hypotheses supported by a literature analysis. Section 3 describes the data collection process and variables used for the empirical investigation. Section 4 presents the statistical methodology and the main results. Section 5 discusses the findings and limitations and propose directions for future research.

2. THEORETICAL BACKGROUND AND RESEARCH HYPOTHESES

2.1. Family firms, family involvement, and acquisition propensity

Although Chrisman, Chua, and Litz (2004) and Chrisman et al. (2007) show that FFs are not immune

from agency conflicts, the family nature and high ownership concentration (Morck, Shleifer, & Vishny, 1988) specific to FFs favor the formation of boards capable of supporting owners' decisions and of ensuring that executives act on behalf of the family (Gomez-Mejia, Cruz, Berrone, & De Castro, 2011), thereby reducing the principal-agent conflict. Considering that acquisitions embody the owner-manager agency conflict (Jensen, 1986; 1988), the company's family nature is a determinant in constraining managers' self-interested deals (Schulze, Lubatkin, Dino, & Buchholtz, 2001; Villalonga & Amit, 2006; Oesterle et al., 2013). The literature recognizes the family's conservative behavior in managing its firms and its orientation toward preserving the longevity of the business (Gomez-Mejia, Haynes, Nunez-Nickel, Jacobson, & Moyano-Fuentes, 2007), in order to foster the company's continuity and stability and facilitate generational change (Gomez-Mejia et al., 2011). This implies risk aversion (Basu, Dimitrova, & Paeglis, 2009; Zaefarian et al., 2016), geared to maintaining the current situation, rather than making acquisitions (Anderson & Reeb, 2003a; Zahra, 2005; Miller et al., 2010). Moreover, self-imposed family managers' selection, due to nepotism and entrenchment, generates managerial incompetence (Chrisman et al., 2004), which boosts perceived uncertainty and risk, limiting the implementation of risky deals (Le Breton-Miller & Miller, 2009). Gomez-Mejia et al. (2011) interpret FFs' strategic choices and their risk-taking attitudes from a perspective neglected by agency theorists; that is, FFs and NFFs differ because they aim to preserve their socio-emotional wealth (SEW), namely, the non-economic aspects of the business (Chrisman et al., 2004; Gomez-Mejia et al., 2007), such as emotional attachment, family control, and reputation. In this view, SEW influences FFs' strategic choices even when it contrasts with the economic purposes. Risk attitude is a subjective aspect of decision makers. In fact, Gomez-Mejia et al. (2007) state that family principals favor risky strategies when these aim toward SEW preservation. However, in the specific case of M&As, Gomez-Mejia et al. (2011) postulate that acquisition activity threatens SEW, thereby supporting the hypothesis that FFs show lower acquisition propensity.

In addition, Corbetta and Salvato (2004) argue that FFs' willingness to pursue non-economic goals enhances the alignment of managers' goals with owners' interests. This aspect recalls the link between agency and stewardship theory with reference to FFs. Even though the two theories follow different assumptions, they converge regarding family owners' and managers' alignment of interests, both geared to the pursuit of non-financial goals. In this situation, agency conflict tends to zero and family managers act as family principal's stewards (Chrisman et al., 2007).

Empirical evidence confirms these theories, showing lower propensity to acquire by FFs than by NFFs (Sraer & Thesmar, 2007; Miller et al., 2010; Lins, Volpin, & Wagner, 2013; Trasobares & Gorriz, 2015). Moreover, some results demonstrate that this propensity is inversely related to family ownership size (Bauguess & Stegemoller, 2008; Caprio et al., 2011; Calabrò et al., 2013). Following these arguments, we investigate the impact of two FI determinants (family ownership and family presence in the executive committee) on M&As and we hypothesize as follows.

H1a: FFs show a lower acquisition propensity than NFFs.
H1b: FFs with a higher level of FIO show a lower acquisition propensity.
H1c: FFs with a higher level of FIM show a lower acquisition propensity.

2.2. Family firms, family involvement, and M&A type

Diversifying acquisitions is aimed mainly at reducing income variability and risk (Amihud & Lev, 1981; Kim, Hwang, & Burgers, 1993; Gomez-Mejia et al., 2010; Chen & Yu, 2012), thereby favoring the achievement of FF objectives oriented toward risk minimization (Anderson & Reeb, 2003b; Zaefrian et al., 2016) and reduction of earnings volatility (Hautz, Mayer, & Stadler, 2013). The desire to reduce their personal risk, without diluting the control of their firms (Anderson & Reeb, 2003b; Gomez-Mejia et al., 2010; Miller et al., 2010; Caprio et al., 2011), is pursued by investing in companies with different core businesses (André et al., 2014). Although the aforementioned theoretical considerations mainly suggest greater FF propensity to realize diversification of M&As, empirical evidence does not support this assumption unanimously (André et al., 2014), and indeed family shareholders often present undiversified portfolios, almost solely invested in their controlled companies (Bauguess & Stegemoller, 2008; Hautz et al., 2013). While Miller et al. (2010) find there is higher propensity to diversify by FFs compared to NFFs, as a way to reduce risk, Caprio et al. (2011) demonstrate there is lower propensity to diversify by FFs compared to NFFs to pursue diversification and cross-border takeovers. Likewise, Anderson and Reeb (2003a) demonstrate a negative relationship between family ownership and diversification. Therefore, a different rationale leads to the assumption that FFs may limit diversification (Gomez-Mejia et al., 2007; 2010), including the possibility of diluting SEW and the need for management expertise, which is not always available in FFs. In that sense, Gomez-Mejia et al. (2011) state that FFs consider diversification as a way to reduce risk, thereby preserving SEW, only in critical conditions. Finally, by closely observing the Italian context in the observed period, we consider the role of the financial crisis, which highlighted the need to implement a strategy that contributes to company survival (Karim & Mitchell, 2000) and to risk reduction (Miller et al., 2010). Consistent with the abovementioned arguments, we hypothesize as follows.

H2a: Diversification strategies are less likely to occur in FFs than in NFFs.

Replicating the previously proposed model, we investigate the impact of FIO and FIM on diversifying strategies pursued by FFs, formulating the following hypotheses.

H2b: FFs with a higher level of FIO are less likely to engage in diversifying M&As.
H2c: FFs with a higher level of FIM are less likely to engage in diversifying M&As.

The FFs' conservative objectives, that is, company survival and the succession of future generations (Miller et al., 2010) do not appear consistent with the implementation of concentration strategies. Indeed, although concentration strategies generate some positive effects, such as scale economies, market and financial synergies, and

production or transaction cost saving (Ravenscraft & Scherer, 1987), such strategies may produce some disadvantages: reduction of company flexibility and consequent risk increase or additional costs for the development of synergies (Gomez-Mejia et al., 2010). The foregoing considerations lead us to believe that more risk-averse companies, such as FFs, may present lower propensity to realize concentration strategies, which may limit their flexibility, especially in crisis periods.

H3a: Concentration strategies are less likely to occur in FFs than in NFFs.

H3b: FFs with a higher level of FIO are less likely to engage in concentrated M&As.

H3c: FFs with a higher level of FIM are less likely to engage in concentrated M&As.

Although FFs' reduction of agency conflict could facilitate the implementation of long-term strategies, such as internationalization (Harris, Martinez, & Ward, 1994; James, 1999), previous studies show a lower preference for these strategies for companies with higher levels of FIO (Menéndez-Requejo, 2005; Sciascia et al., 2012) as a result of their lower risk appetite (Zahra, 2005). Indeed, despite the ability to achieve favorable long-term performances (Zahra, 2003), FFs fear difficult integration between companies operating in different countries and lack of accurate information regarding foreign markets (Sciascia et al., 2012). Cross-border acquisitions involve companies dealing with different cultures, which may be in contrast to an FF's socio-emotional needs (Gomez-Mejia et al., 2007). Consistent with the described theoretical framework, we formulate the following hypotheses.

H4a: Internationalization strategies are less likely to occur in FFs than in NFFs.

H4b: FFs with a higher level of FIO are less likely to engage in cross-border M&As.

H4c: FFs with a higher level of FIM are less likely to engage in cross-border M&As.

2.3. Family firms, family involvement, and post-acquisition performance

Previous literature underlines that family owners' and managers' goal alignment results in the more careful choice of targets (Bouzgarrou & Navatte, 2013). According to Chen and Hsu (2009), greater caution in investment selection is supported by the long-term vision of family members and results in a positive effect on acquisition output. Indeed, André et al. (2014) reveal that agency conflict negatively affects post-announcement market performance. Since the literature recognizes that the FF business model attenuates this conflict (Ben-Amar & André, 2006), it is reasonable to assume that FFs achieve better post-deal performance. From this perspective, Ben-Amar and André (2006), Basu et al. (2009) and Feito-Ruiz and Menéndez-Requejo (2010) find that FFs achieve better results than NFFs. In addition, Bouzgarrou and Navatte (2013) find that FFs outperform NFFs.

Our literature analysis suggests that the linkage between the acquiring company's family nature and its post-deal performance is an open question. In addition, the acquisition types (i.e. concentration, diversification, or internationalization) will affect performance differently. For that reason, we formulate the following non-directional hypothesis.

H5a: Being an FF influences post-M&A performance according to the acquisition type.

Focusing on FFs, we hypothesize different relationships when considering the extent of FIO and FIM. Some scholars (e.g., Claessens, Djankov, Fan, & Lang, 2002) recognize family owners' willingness to extract private benefits through M&As. From that perspective, Bauguess and Stegemoller (2008) find a negative relationship between FIO and post-acquisition performance. Moreover, family managers do not hold suitable skills to manage such complex operations (managerial incompetence) and difficult post-acquisition integration processes (Zahra, 2005) compared to professional managers, limiting the success of the deal (Volpin, 2002; Ward, 2004). Therefore, we expect better performances when FIM is lower. In particular, we follow the literature that assumes a positive impact on the post-deal performance of agency conflict reduction, owing to a higher level of FIO. In fact, Caprio et al. (2011), find that contrasts between owners and managers result in negative market reactions to a deal's announcement. At the same time, we aim to test if FIM, despite contributing to the reduction of agency conflicts, has a negative impact on the deals' output, due to scarce family managers' expertise and managerial honest incompetence (Chrisman et al., 2004) consequent to self-imposed manager selection.

H5b: The level of FIO influences post-M&A performance according to the acquisition type.

H5c: The level of FIM influences post-M&A performance according to the acquisition type.

3. METHODOLOGY

3.1. Empirical research context

Our empirical analysis is performed on the Italian context, which represents an ideal scenario for the aims of this study. First, as shown in subsection 4.1 (descriptive statistics), there is a large number of family-controlled firms among Italian listed companies. Italian families are strongly committed to their businesses and are highly involved in management so that both the chairperson of the board of directors and the CEO are often part of the controlling family. Moreover, a large proportion of the controlling family's wealth is invested in the company (Bianchi & Enriques, 1999; Volpin, 2002). As a result, Italian controlling families tend to maintain long-term controlling interests in the firm (Miller & Le Breton-Miller, 2005). For these reasons, Italy is an eligible candidate for the analysis of the impact of familiness on a company's strategic choices.

Second, the Italian setting is suitable for studying acquisition strategies. Low investor protection (La Porta, Lopez-de-Silanes, Shleifer & Vishny, 1998), underdeveloped equity markets, and very high ownership concentration characterize Italian corporate governance regimes (Volpin, 2002), increasing the risk of unsuccessful operations (Feito-Ruiz & Menéndez-Requejo, 2010). In this context, minority shareholders need higher returns on their invested capital (Rossi & Volpin, 2004).

Third, the global financial crisis particularly affected Italian companies, resulting in increased risk perception. This might contribute to a reduction in active deals and might favor passive acquisitions since it is more frequent to find undervalued target firms (Rossi & Volpin, 2004). Considering the family nature of a company, Lins et al. (2013) show that

during a crisis, FFs reduce investment more than NFFs do. As suggested by Wan and Yiu (2009), environmental shock can offer companies that are more farsighted some growth opportunities. Finally, according to the resource-based perspective, Karim and Mitchell (2000) show that acquisitions those enable a company to obtain valuable resources and capabilities represent a strategy for survival in crisis periods.

3.2. Research design and sample selection

While most studies illustrate the acquisition behavior of FFs as opposed to NFFs, this research adds an analysis within FFs. Hence, for each of the three main research issues (i.e., acquisition propensity, acquisition type, and acquisition performance), we first investigated whether it depends on being an FF (from *H1a* to *H5a*). Second, we went further by investigating the relationship between FI and acquisition activity (from *H1b-c* to *H5b-c*), using a set of variables proxying for the level of FIO and FIM, and thereby overcoming the definition of familiness as a dichotomous variable (Astrachan, Klein, & Smyrnios, 2002).

The empirical analysis is based on a sample of companies listed on the Milan Stock Exchange continuously from 2005 to 2011. Following Sraer & Tesmar (2007), we exclude financial and real estate companies. The final sample dimension is 141 companies, representing 43% of the population (in December, 2011 the total number of listed companies was 328). Although this sample equals 987 observations across the 7-year period considered in this study, some missing values on control variables made the final sample size lower in terms of observations. In addition, when we analyze post-M&A performance, the sample considers only firms with at least one M&A for a given year.

3.3. Data collection

3.3.1. Data on acquisitions

Acquisition propensity is proxied by the yearly number of M&As, as provided by the Zephyr (Bureau van Dijk) database[1]. In order to identify the different strategies pursued by the acquiring companies, we compared the bidder's and the target's industry (based on the four-digit statistical classification of economic activities in the European Community, NACE REV. 2), and observed foreign target companies. Therefore, an internationalization strategy is present when a cross-border acquisition is realized (i.e., the target operates abroad); a concentration strategy is present when the target company shows some horizontal or vertical relationships with the bidder, such as similar products and resource sharing, or when the two companies vertically integrate their activities (Amihud & Lev, 1981); finally, a conglomerate diversification strategy is present when the bidder and target companies have different core businesses (Miller et al., 2010; Chen & Yu, 2012).

3.3.2. Data on family firms and FI

In order to distinguish FFs from NFFs, we considered both family ownership and family presence in management. According to our definition, FFs are those in which either: 1) shares held by the family are equal to at least 50% + 1 share of the capital (family ownership >0.5) (Bouzgarrou & Navatte, 2013); or 2) at least one of the family members holds a business interest of at least 20% (Klasa, 2007) and at least one of the family members participates in the board of directors (0.20≤family ownership≤0.50 and family board>0). We assumed that family members are those related by kinship, affinity, or marriage.

The choice of a high threshold for the family ownership in the first criterion is due to the characteristic of the Italian capital market (Barontini & Caprio, 2006; Zattoni, 1999). The second criterion allows us to consider as FFs the companies that are family controlled with a relative majority but in which the family members participate in the board of directors. Therefore, we require that at least one family member is a shareholder (Caprio et al., 2011) and at least another family member is a member of the board of directors, following Corbetta and Tomaselli (1996) and Klein (2000). These conditions provide us with a dichotomous variable assuming a value of 1 for FFs and 0 for NFFs.

Then, we measured the level of FI by considering: 1) the FIO, that is, the percentage of shares owned by family members, and 2) the FIM, that is, the percentage of family members on the executive board. In this way, we can observe the impact on strategic choices of family participation in both the ownership and the decision-making process (e.g., Villalonga & Amit, 2006).

3.4. Regression models

In order to test the hypotheses related to both the acquisition propensity and type, we performed maximum-likelihood logit models, in which the dependent variable is the M&A strategy. However, when M&A is expressed as the yearly number of operations (*H1*), we used ordered, multinomial logistic regression, and GLS, for the ordered and unordered categorical and continuous measure of the dependent variable, respectively. On the other hand, when M&A is observed in terms of the type of strategy (*H2, H3,* and *H4*), we adopted only multinomial logistic regression, where the dependent variable is coded as one of four categories: no M&A strategy, diversification strategy, concentration strategy, and internationalization strategy. Specifically, hypotheses *H1a* to *H4a* comparing FFs to NFFs were tested using the following general regression equation:

$$
\begin{aligned}
M\&A_{it} = \beta_0 &+ \beta_1 F_{FIRM_{it}} + \beta_2 SIZE_{it} \\
&+ \beta_3 LEV_{it} + \beta_4 MTB_{it} + \beta_5 ROA_{it} \\
&+ \beta_6 FCFO_{it} \\
&+ \beta_7 BETA_{it} + \beta_8 CRISIS \\
&+ \beta_9 D\_INDUSTRY_i + \varepsilon_{it}
\end{aligned} \tag{1}
$$

To explore if the propensity to implement a given M&A strategy is higher (lower) among FFs, and thereby test hypotheses *H1b-c* to *H4b-c*, we replaced the dummy variable by two continuous variables, F_OWN and F_EXE.

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[1] Our data are derived from Bureau van Dijk's Zephyr merger and acquisition database (henceforth Zephyr), which also provides comprehensive coverage of European acquisition deals. According to Huyghebaert and Luypaert (2010), Zephyr "covers deals of smaller value and has a better coverage of European transactions" (p. 395). This database was used also by Von Eije and Wiegerinck (2010), Craninckx and Huyghebaert (2011), and De Beule and Duanmu (2012).

$$M\&A_{it} = \beta_0 + \beta_1 F\_OWN_{it} + \beta_2 F\_EXE_{it} + \beta_3 SIZE_{it} + \beta_4 LEV_{it} + \beta_5 MTB_{it} + \beta_6 ROA_{it} + \beta_7 FCFO_{it} + \beta_8 BETA_{it} \\ + \beta_9 AGE_{it} + \beta_{10} CRISIS_{it} + \beta_{11} D\_INDUSTRY_{it} + \varepsilon_{it} \quad (2)$$

$$PERFORM_{i\Delta-1/+1} = \beta_0 + \beta_1 F\_FIRM_{it} + \beta_2 CONCENTR_{it} + \beta_3 DIVERSIF_{it} + \beta_4 INTERNAT_{it} \\ + \beta_5 F\_FIRM_{it}*CONCENTR_{it} + \beta_6 F\_FIRM_{it}*DIVERSIF_{it} + \beta_7 F\_FIRM_{it}*INTERNAT_{it} + \beta_8 LEV_{it} \quad (3) \\ + \beta_9 RSIZE_{it} + \beta_{10} LISTED_{it} + \beta_{11} MTB_{it} + \beta_{12} CRISIS_{it} + \beta_{13} D\_INDUSTRY_i + \varepsilon_{it}$$

Finally, to test the relationship between FFs, NFFs, and performance (*H5a*), we adopted the following general regression equation 3.

Again, the dummy variable F_FIRM was replaced by the two continuous variables, F_OWN and F_EXE, when we tested the relationship between FI and performance, that is, *H5b-c*. Table 1 describes the dependent, independent, and control variables included in the abovementioned regression models.

All variables were winsorized at 1% and 99% in order to reduce the impact of outlier values. We measure M&A performance under a multidimensional approach, along with both market and accounting dimension on a medium-term scale that is one year after the acquisition vis-a-vis one year before the conclusion, with zero being the year of M&A (e.g. Morosini & Singh, 1994).

Table 1. Variable descriptions

Panel A. Description of dependent and independent variables

Variable of interest	*Description*	*Comment*
M&A (propensity)	1) Dummy variable taking a value of 1 in presence of M&A, 0 otherwise.	Dependent variable for the Eq. 1 and 2, testing H1.
	2) Each of the four categories of number of M&A. It takes the value of 0 for no M&A, 1 for single M&A, 2 for 2-3 M&As; 3 for 4 or more M&As.	
	3) Continuous variable measuring the yearly number of M&A.	
M&A (type)	4) Each of the four categories of M&A strategies. It takes the value of 0 for no M&A strategy (base category), 1 for concentration, 2 for diversification, and 3 for internationalization.	Dependent variable for the Eq. 1 and 2, testing H2, H3, and H4.
CONCENTR	Continuous variable proxying for the number of concentration M&A.	Independent variables for the Eq. 3.
DIVERSIF	Continuous variable proxying for the number of diversification M&A.	
INTERNAT	Continuous variable proxying for the number of internationalization M&A.	
F_FIRM	Dummy variable taking a value of 1 whether the company is an FF, 0 otherwise.	Independent variable for the Eq. 1 and 3.
F_OWN	Percentage variable proxying for family ownership, by considering the number of shares held by the family.	Main independent variables for the Eq. 2.
F_EXE	Percentage variable proxying for the family presence on family executives, by considering the number of family members seating on the executive board.	
PERFORM	1) Market performance proxied by the CAR change across three years.	Dependent variable for the Eq. 3, testing H5.
	2) Accounting performance proxied by the log of the change in sales on assets ratio.	

Panel B. Control variables (Part I)

Control variables		*Relationships with the dependent variables*	
		M&A	PERFORM
SIZE	Natural logarithm of the firm's sales.	Positively related to the number of M&As (Bauguess & Stegemoller, 2008; Miller et al., 2010; Caprio et al., 2011), to specialisation and related diversification strategies (Feito-Ruiz & Menéndez-Requejo, 2012; Trasobares & Gorriz, 2015), and to internationalization strategies (Zahra, 2003).	
LEV	Debt-to-equity ratio as a proxy of the financial risk.	Competing effects on the propensity to acquire (Caprio et al., 2011). Positively related to specialization and pure unrelated diversification strategies (Trasobares & Gorriz, 2015). Negatively related to diversification (Feito-Ruiz & Menéndez-Requejo, 2012).	Negatively related to the performance (Villalonga & Amit, 2006; Martinez et al., 2007; Andres, 2008).
MTB	Market-to-book ratio.	Negatively related to acquisition volume (Caprio et al., 2011) and diversification strategy (Feito-Ruiz & Menéndez-Requejo, 2012).	Positively related to the market performance by construction.
ROA	Return on assets ratio.	Positively related to M&As propensity (Caprio et al., 2011).	
FCFO	Free cash flow from operations divided for the book value of total assets.	Positively related to M&As propensity (Bauguess & Stegemoller, 2008).	
BETA	Firm's beta as a proxy of the market risk.	Negatively related to the number of M&As (Miller et al., 2010).	
AGE	A number of years since the firm's foundation. Collected only for FFs, as a proxy of generation.	Positively related to specialization strategies (Trasobares & Gorriz, 2015), and international sales (Zahra, 2003).	Negatively related to performance (Westhead & Howorth, 2006; Martinez et al., 2007).

Panel B. Control variables (Part II)

Control variables		Relationships with the dependent variables	
		M&A	PERFORM
CRISIS	Dummy variable taking the value of 1 for observations from 2009 to 2011; 0 otherwise.	Positively related to acquisition propensity (Karim & Mitchell, 2000) and diversification strategies (Miller et al., 2010).	Positively related to post M&As performance (Wan & Yiu, 2009).
RSIZE	Relative deal size as deal market value on acquirer market value ratio.		Negatively related to post M&As performance (Moeller, Schlingemann & Stulz, 2004; André et al., 2014).
LISTED	Dummy variable taking a value of 1 whether the target company is listed.		Negatively related to post M&As performance (Officer, 2007; André et al. 2014).
D_INDUSTRY	Dummy variables for industry fixed-effects.	(Not directly observed)	(Not directly observed)

4. RESULTS

4.1. Descriptive statistics

Table 2 shows the distribution sample of FFs and NFFs by sector. In our sample, while FFs operate mainly in trade (consumer goods and services) and industrial sectors, NFFs can be observed mainly in industrial, telecommunication, and utility sectors.

Table 3 shows the descriptive statistics of the yearly number of M&As and the results of a difference-in-means t-test. This variable differs statistically between FFs and NFFs (Pearson Chi^2 (3) = 11.143; significance Pr = .011).

Table 2. Sample distribution by industry

	No. of firms	No. of obs.	%	Basic materials	Consumer goods	Consumer services	Health Care	Industrials	Oil & gas	Technology	Telecommunication	Utilities
FFs	76	535	54.2	14	154	103	14	203	14	19	7	7
NFFs	65	452	45.8	14	42	72	7	112	14	86	21	84
Total	141	987	100	28	196	175	21	315	28	105	28	91

Table 3. Descriptive statistics of M&As

	Family firms	Non-family firms	Total
0	402	329	731
1	98	67	165
2-3	29	45	74
≥4	6	11	17
Total	535	452	987

Because the Chi^2 value is significant at 5% (the distributions are different), we could claim that there is a relationship between being an FF and the number of M&As, enabling the differences between FFs and NFFs to be explored further.

Table 4 shows descriptive statistics and Pearson correlations for both the full sample (Panel A) and the FF sample (Panel B). In the full sample, the number of M&As is negatively and significantly correlated to the dummy variable proxying for FFs (F_FAM), while the type of acquisition strategy is not significantly correlated to F_FAM. Most control variables are significantly correlated to the main of variables of interest with the expected signs. Interestingly, the number and type of M&As are all negatively and significantly correlated to the variable proxying for the years of the financial crisis. As for the restricted sample of FFs, the results are very similar. Although FIO is not correlated to the other variables of interest, FIM is correlated to the number of M&As. For the sake of brevity, we do not show the correlation matrix of variables included in the sub-sample adopted for performing Eq. 3.

Table 4. Descriptive statistics and Pearson correlations (Part I)

Panel A. *Full sample (n=987)*													
		Mean	SD	1	2	3	4	5	6	7	8	9	
1	M&A (number)	.404	.846										
2	M&A (type)	.482	.937	.726*									
3	ROA	-.222	15.952	.056	.068*								
4	F_FAM	.542	.498	-.082*	.011	.108*							
5	SIZE (.000)	8,740,623	1,420,391	.162*	.153*	.056	-.118*						
6	LEV	1.897	8.863	-.022	-.025	-.022	-.049	-.001					
7	MTB	1.976	4.860	.075*	.079*	.009	-.061	.009	.067*				
8	FCFO	.053	.729	-.004	-.002	.061	.046	.010	-.018	-.012			
9	BETA	1.051	.456	.129*	.080*	-.076*	.034	.064	-.013	.076*	-.030		
10	CRISIS	.571	.495	-.143*	-.114*	-.102*	.009	-.006	.024	-.156*	-.056	.066*	

Table 4. Descriptive statistics and Pearson correlations (Part II)

		Mean	SD	1	2	3	4	5	6	7	8	9
		Panel B. Family firms sample (n=535)										
1	M&A (number)	.340	.703									
2	M&A (type)	.492	.969	.741*								
3	ROA	1.369	7.468	.065	.070							
4	F_OWN	.594	.119	-.085	-.079	.096*						
5	F_EXE	.558	.313	-.126*	-.084	-.09*	.146*					
6	SIZE (.000)	396,000	1,070,000	.142*	.086	.161*	.055	-.128*				
7	LEV	1.497	3.507	.011	.004	-.082	-.042	-.075	.147*			
8	MTB	1.705	3.603	.138*	.154*	.245*	.004	-.066	.072	.001		
9	FCFO	.083	.969	-.012	-.011	.038	-.043	-.10*	.004	-.029	.016	
10	BETA	1.064	.462	.098*	.035	-.109*	-.164*	-.097*	.084	.015	.094*	-.053

*Note: * denotes significance at 5% level or better*

4.2. Multivariate analysis

In order to test the hypotheses formulated in Section 2, we adopted a set of different models, both logistic and linear. First, we used an RE panel regression model given that our data were both cross-sectional and longitudinal and that RE were found to be present in the data. The appropriateness of RE was verified using the Breusch-Pagan Lagrangian multiplier (LM) test, which examines whether fixed effects (FE) or RE are preferred to OLS. The Breusch-Pagan LM test showed a test statistic of 104.03~Chi^2 (1) p<.000 and, therefore, RE performed better than OLS. Then, we used the Hausman test to ensure that the model had RE and not FE. Since FE was not a valid statistical option (test statistic = 4.22~Chi^2 (8), p=.837), RE was used in the analysis. Following Dyer and Whetten (2006), who similarly find RE in their panel data of FFs, we theoretically assumed that the RE estimator is justified because there is no reason to believe that any unobserved variables captured by the composite error term are correlated with the regressors.

As for acquisition propensity testing *H1a*, Model 1 of Table 5 shows the results of a preliminary analysis using a simple binary logit regression model. Although F_FIRM has a positive sign, so that FFs would be more likely to perform M&As than NFFs, this relationship is not statistically significant. However, we undertook a more in-depth analysis by considering multiple M&As, including the possibility of having more than one M&A in a single year. We first considered this variable as ordered categorically (Model 2). The reported likelihood ratio test (85.21~Chi^2 (1), p<.000) shows that there is enough variability between firms to favor an RE ordered logistic regression over a standard ordered logistic regression (not tabulated). The greater is the number of M&As, the lower is the probability of being implemented by an FF, and we found the expected negative but still not significant relationship for the F_FIRM variable. Then, we considered M&As as a continuous variable, that is a yearly total number of M&As (Model 3). Again, results of the RE GLS regression model show a negative sign but no statistical significance.

Finally, we considered M&As as an unordered variable, that is, all levels within the variable are equivalent in terms of importance (Model 4). The probability that an FF performed a number of M&As ranging between 0 and 4 or more was distributed in four classes and modeled using Stata's feature for generalized linear latent and mixed models (GLLAMM) (Rabe-Hesketh, Pickles, & Skrondal, 2001), an estimation that is becoming more commonly used in social sciences, and specifying the multinomial logit link. The multinomial logit model with RE enabled us to overcome the endogeneity problem and control for the unobserved heterogeneity, obtaining a more accurate approximation and drawing causal inferences (Hsiao, 1985). Specifically, while both Gauss–Hermite quadrature and adaptive quadrature might be used to estimate multinomial logit cases, adaptive quadrature is considered advantageous in terms of accuracy because it uses posterior RE distribution in the estimation process so that it is more reliable than other methods.

Interestingly, this additional and sophisticated model using the GLLAMM approach shows a statistically significant difference between FFs and NFFs. When more than one M&A is performed, FFs are less likely to implement acquisition strategies than NFFs, and this expected relationship is stronger (significant at .05) when the number of M&As is higher than (or equal to) four. Therefore, it is possible to infer that in our sample over a threshold of just one M&A, FFs realize a lower number of M&As than NFFs. To ease the interpretation of the results, we reported odds ratios rather than coefficients. Therefore, the propensity to realize, for example, four or more M&A deals for a year (vs. no M&As at all) is about 72% [(.281 – 1)*100)] lower for FFs relative to NFFs (or, similarly, about 3,6 times more for NFFs [1/.281)]), other things being equal. Therefore, we can confirm our *H1a*. Among control variables, BETA and CRISIS are strongly related to the different proxies of the dependent variable. BETA has a positive sign, so the higher is the operational risk, the higher is the probability to perform M&As, while CRISIS shows an expected negative sign, so that during the financial crisis years (2009–2011), this probability drops, except for the case of four or more M&As.

Table 5. Results of RE panel binary, ordinal, and multinomial logistic regression and GLS regression for number of M&As (FFs vs. NFFs)

	Es	*Model 1*	*Model 2*	*Model 3*	*Model 4*		
		RE binary LOGIT	*RE ordered LOGIT*	*RE GLS*	*RE multinomial unordered LOGIT (GLLAMM)*		
Dependent Var.		(0=No M&A; 1=M&A)	#M&A (four categories)	Continuous #M&A	1 M&A	2-3 M&As	≥4 M&As
Independent Var.							
F_FIRM	-	1.074 (0.21)	.849 (-0.47)	-.119 (-1.18)	1.395 (1.44)	.571 (-1.70)*	.281 (-2.01)**
SIZE	+	1.076 (1.08)	1.091 (1.24)*	.031 (1.94)*	1.046 (0.91)	1.091 (1.23)	1.263 (1.50)
LEV	+/-	.995 (-0.82)	.998 (-0.53)	.000 (0.16)	.989 (-0.58)	.997 (-0.17)	1.005 (-0.06)
MTB	+	1.085 (2.24)**	1.064 (1.94)*	.014 (1.42)*	1.064 (1.52)	1.085 (1.87)*	1.145 (1.11)
ROA	+	1.017 (1.52)	1.012 (1.32)	.001 (1.21)	1.012 (0.97)	1.008 (0.53)	1.018 (0.38)
FCFO	-	.892 (-1.71)*	.898 (-1.62)	-.025 (-3.45)***	.950 (-0.32)	.768 (-0.39)	.667 (-0.24)
BETA	+	2.178 (3.09)***	2.105 (3.10)***	.244 (3.00)***	1.800 (2.74)***	1.526 (1.34)	4.852 (3.43)***
CRISIS	-	.394 (-4.22)***	.412 (-4.15)***	-.273 (-3.84)***	.536 (-3.07)***	.394 (-3.20)***	.398 (2.78)
Intercept		.018 (-2.71)***	-	-.302 (-0.78)	.021 (-3.43)***	.016 (-2.85)***	.000 (-1.61)***
Cut1			3.930 (2.57)**				
Cut2			5.622 (3.59)***				
Cut3			7.615 (4.85)***				
N=865							
LR/Wald chi²		62.23***	85.21***	73.78***	139.29***		
R² / Pseudo R²				0.1596	0.103		
Log Likelihood		-415.593	-595.961	-	-605.355		
AIC (BIC)		867.185 (952.727)	1,231.922 (1,326.968)	-	1,312.71 (1,555.076)		

*Note: ***, **, * denote significance at the 1%, 5% and 10% levels, respectively. For logit models, odds ratios are shown instead of coefficients (Z values in parentheses). Reference category is "no M&A". Robust standard errors clustered by the firm are used. All regressions models include industry fixed effects (not reported)*

Table 6 shows the results of the abovementioned analyses performed only on the sub-sample of FFs. However, since for multinomial logit regression some variables proxying for FI were found with no values within the last M&A category, in order to avoid an overfitting problem, we had to merge the second and third categories of M&As. Overall, the signs of F_OWN and F_EXE are negative, as expected. Again, while simple binary or ordered logit regressions (Models 1 and 2) do not produce significant (or only weak) results, by adopting a GLLAMM (Model 4), we found negative and significant relationships between the proxies of FI and the propensity to perform M&As.

Specifically, the higher is the presence of family members in ownership for one M&A, and in the executive committee for two or more M&As, the lower is the number of M&As performed. By numbers, this means that an increase of 1% of FIO (FIM) leads to a reduction of about 86% (83%) of the odds to perform one (two or more) M&As. In summary, with regard to the impact of FI on the acquisition propensity, we could confirm hypotheses *H1b* and *H1c*.

Table 6. Results of RE panel binary, ordinal, and multinomial logistic regression and GLS regression for number of M&As (FF sample)

	ES	*Model 1*	*Model 2*	*Model 3*	*Model 4*	
		RE binary LOGIT	*RE ordered LOGIT*	*RE GLS*	*RE multinomial unordered LOGIT (GLLAMM)*	
Dependent Var.		(0=No M&A; 1=M&A)	#M&A (four categories)	Continuous #M&A	1 M&A	≥2 M&As
Independ. Var.						
F_OWN	-	.323 (-0.60)	.537 (-0.35)	-.117 (-0.31)	.144 (-1.69)*	.041 (-1.44)
F_EXE	-	.769 (-0.42)	.587 (-0.94)	-.189 (-1.59)*	.899 (-0.24)	.172 (-2.17)**
SIZE	+	1.127 (1.13)	1.155 (1.37)	.027 (1.47)	1.006 (0.08)	1.370 (1.97)**
LEV	+/-	.981 (-0.73)	.996 (-0.14)	-.001 (-0.24)	.972 (-0.87)	.980 (-0.31)
MTB	+	1.183 (1.61)	1.055 (0.70)	.014 (1.16)	1.176 (2.00)**	1.229 (1.79)*
ROA	+	.987 (-0.60)	.989 (-0.55)	-.002 (-0.65)	.993 (-0.34)	.971 (-0.90)
FCFO	-	.853 (-1.97)**	.861 (-1.84)*	-.026 (-2.98)***	.892 (-0.43)	.888 (-0.30)
BETA	+	1.662 (1.50)	1.553 (1.37)	.144 (1.45)	1.426 (1.22)	1.199 (0.39)
AGE	-	.778 (-0.87)	.806 (-0.82)	-.012 (-0.20)	1.029 (0.16)	.883 (-0.45)
CRISIS	-	.449 (-2.74)***	.462 (-2.78)***	-.200 (-3.18)***	.540 (-2.23)**	.543 (-1.37)
Intercept		.057 (-1.67)*		-.039 (-0.13)	.270 (-0.84)	.002 (-2.12)**
Cut1			3.284 (2.07)**			
Cut2			5.315 (3.31)***			
Cut3			7.236 (4.35)***			
N=476						
LR/Wald chi²		37.32***	382.71***		70.64***	
Pseudo R² / R²				0.2460	0.1110	
Log Likelihood		-229.194	-310.567	26.70***	-282.84	
AIC (BIC)		498.387 (581.695)	663.133 (750.607)		640.259 (730.466)	

*Note: ***, **, * denote significance at the 1%, 5% and 10% levels, respectively. For logit models, odds ratios are shown instead of coefficients (Z values in parentheses). Reference category is "no M&A". Robust standard errors clustered by the company are used. All regressions models include industry fixed effects (not reported)*

Moving to acquisition strategy type, Table 7 shows the results of RE panel multinomial logistic regression of M&A strategies on the dichotomous variable proxying for FFs versus NFFs. Again, we modeled the determinants of the company's alternative M&A strategy choice with a multinomial logit model with random unobserved heterogeneity in a panel set to account for unobserved individual company effects. Specifically, Model 1 considered M&As across the three different strategies in an aggregate view. In this case, we found no evidence of statistically significant differences between FFs and NFFs, whatever the M&A strategy. However, when we disaggregated concentric vs. conglomerate diversification strategies, as well as horizontal vs. vertical (in turn, forward vs. backward) concentration strategies (Model 2), a negative expected relationship was found between being an FF and the odds of performing a concentric M&A (*H2a* was accepted).

Table 7. Results of RE panel multinomial logistic regression for aggregate and disaggregate M&A strategies (FFs vs. NFFs)

		Model 1					Model 2				
		RE multinomial LOGIT (GLLAMM) (4 categories)					RE multinomial LOGIT (GLLAMM) (7 categories)				
	ES	Diversific.	ES	Concentrat.	ES	Internat.	Concentric	Conglom.	Vertical forward	Vertical backward	Horizont.	Internat.
F_FIRM	-	.557 (-1.38)	-	1.066 (0.24)	-	1.180 (0.56)	.039 (-2.47)**	.947 (-0.11)	.803 (-0.45)	1.116 (0.28)	1.275 (0.53)	1.187 (0.58)
SIZE	-	.682 (-4.89)***	+	1.228 (3.46)***	+	1.208 (2.55)**	.593 (-2.44)**	.675 (-4.45)***	1.003 (0.02)	1.219 (2.15)**	1.460 (3.73)***	1.211 (2.58)*
LEV	?	.983 (-0.47)	+	.989 (-0.57)	?	.996 (-0.19)	.993 (-0.09)	.977 (-0.52)	.988 (-0.38)	.991 (-0.33)	.981 (-0.56)	.996 (-0.20)
MTB	-	.866 (-2.52)**	+	1.125 (2.64)***	+	1.133 (2.69)***	.834 (-1.11)	.851 (-2.61)***	1.049 (0.47)	1.118 (2.07)**	1.173 (3.03)***	1.140 (2.73)***
ROA	+	1.011 (0.45)	+	1.006 (0.59)	+	1.012 (0.63)	1.056 (0.72)	1.008 (0.32)	1.014 (0.51)	1.008 (0.51)	1.001 (-0.08)	1.011 (0.61)
FCFO	+	.933 (-0.21)	+	.954 (-0.21)**	+	.845 (-0.25)	1.142 (0.08)	.851 (-0.24)	1.005 (0.02)	.561 (-0.69)	.989 (-0.04)	.837 (-0.25)
BETA	+	4.255 (3.45)***	+	1.872 (2.59)**	+	1.399 (1.20)	6.629 (2.15)**	3.721 (2.72)***	1.458 (0.80)	2.739 (2.82)***	1.389 (0.87)	1.391 (1.17)
CRISIS	-	.220 (-3.59)***	-	.511 (-2.95)***	-	.602 (-1.91)*	.226 (-1.52)	.216 (-3.28)***	.441 (-1.89)*	.535 (-1.84)*	.526 (-1.86)*	.607 (-1.88)*
Intercept		20.933 (2.13)**		.001 (-5.54)***		.001 (-4.44)***	201.532 (1.51)	6.974 (1.16)	.035 (-1.6)	.000 (-4.22)***	.000 (-5.35)***	.001 (-4.46)***
N=856												
LR/Wald chi²		203.02***					255.29***					
Pseudo R²		.142					.150					
Log Likelihood		-613.583					-723.882					
AIC (BIC)		1,329.166 (1,571.531)					1,641.764 (2,102.734)					

Note: Reference category is "no M&A". Odds ratios are shown instead of coefficients (Z values in parentheses)
***, **, * denote significance at the 1%, 5% and 10% levels, respectively. Robust standard errors clustered by the company are used. All regressions models include industry fixed effects (not reported)

Again, Table 8 shows the results of the abovementioned analyses performed only on the sub-sample of FFs. However, differently from Table 7, the reduced number of observations did not allow us to disaggregate the three main acquisition strategies. Overall, the higher is the FIO, the lower is the probability of performing strategies of diversification (*H2b* was accepted) and internationalization (*H4b-c* were accepted).

Table 8. Results of RE panel multinomial logistic regression for aggregate M&A strategies (FF sample)

		RE Multinomial LOGIT (GLLAMM) (4 categories)				
	ES	Diversification	ES	Concentration	ES	Internationalization
F_OWN	-	.010 (-2.07)**	-	.246 (-0.95)	-	.034 (-1.83)*
F_EXE	-	7.021 (1.66)*	-	.563 (-0.94)	-	.363 (-1.69)*
SIZE	-	.689 (-2.62)***	+	1.218 (1.80)*	+	1.231 (1.62)
LEV	?	.968 (-0.26)	+	.965 (-1.01)	?	.977 (-0.45)
MTB	-	.174 (-3.01)***	+	1.049 (0.39)	+	1.457 (3.91)***
ROA	+	.991 (-0.11)	+	.998 (-0.09)	+	.972 (-1.16)
FCFO	+	.980 (-0.07)	+	.944 (-0.17)	+	.375 (-0.62)
BETA	+	4.260 (1.94)*	+	1.489 (1.09)	+	.834 (-0.46)
AGE	?	.877 (-0.35)	+	1.418 (1.48)	+	.640 (-1.88)*
CRISIS	-	.067 (-3.47)***	-	.533 (-1.83)*	-	.652 (-1.16)
Intercept		22.729 (1.66)*		.002 (-2.76)***		.057 (-1.23)
N=476						
LR/Wald chi²		146.00				
Pseudo R²		0.1970				
Log Likelihood		-297.594				
AIC (BIC)		707.189 (936.807)				

Note: Reference category is "no M&A". Odds ratios are shown instead of coefficients (Z values in parentheses)
***, **, * denote significance at the 1%, 5% and 10% levels, respectively. Robust standard errors clustered by the company are used. All regressions models include industry fixed effects (not reported)

Finally, with regard to post-acquisition performance, Table 9 shows the results of the performance (proxied by a change in both CAR and sales-on-assets ratio) regressed on F_FIRM (Models 1–2) and FI proxies (Models 3–4). All models used robust errors clustered for both company and year (Gow, Ormazabal, & Taylor, 2010).

FFs do not differ from NFFs with regard to post-acquisition performance and the acquisition type does not affect the performance, except for a weak and positive impact of diversification on accounting-based performance. However, we find that the relationship between CAR and diversification strategies is significantly and negatively moderated by the family firm variable. Thus, family firms experience a lower performance in terms of CAR when the number of diversification strategies increase (*H5a* can be accepted). This result is consistent with Morck, Shleifer and Vishny's (1990) study, who find acquisitions with a diversifying character generally destroy shareholder wealth.

In addition, when we look at the subsample of family firms, while diversification strategies positively affect sales-on-assets ratio, the significant and positive interaction term between FIO and diversification means that accounting performance increases when family involvement in ownership is higher. Finally, a weak and positive interaction is found for FIM and concentration strategies (*H5b-c* were accepted).

Although our results are mixed as to the performance measure adopted, this is quite expected considering the relevant difference between market-based and accounting-based performance measures. When multiple dimensions are used, the M&A scholars frequently compare market and accounting types of measures and test the convergence of results across the measures. However, it does not make sense to compare market measures such as CAR (a prediction of future company performance) with accounting measures (a measure of historical performance). This represents a common mistake since reaching a consensus upon the M&A measurement is not possible or desirable (Meglio & Risberg, 2011).

In addition, our results are not significant as to acquisition strategies. Previous research found that M&As do not create value for all the stakeholders (Datta et al., 1992). In addition, sometimes the integration process fails to produce the expected benefits because there are no true synergies to be had from an acquisition, such as in the case of acquisitions driven by issues of agency and self-serving behaviour of managers (Kroll et al., 1997) or when M&As have other goals than increasing shareholder value, such as in the case of family firms. However, we contribute to previous research by introducing interaction terms and detecting new relationships between acquisition strategies and familiness.

Table 9. Results of regression for performance (both FFs vs. NFFs and only FF sample)

Independent Var.	Model 1 CAR	Model 2 Sales/Assets ratio	Model 3 CAR	Model 4 Sales/Assets ratio
F_FIRM	.074 (1.40)	.021 (.29)		
F_OWN			.010 (.01)	-.266 (-1.56)
F_EXE			.239 (1.39)	.126* (1.95)
CONCENTR	-.043 (-1.06)	-.002 (-.23)	-.038 (-.15)	.054 (1.62)
DIVERSIF	-.046 (-1.00)	.049* (1.77)	.358 (.87)	.184** (2.29)
INTERNAT	-.033 (-.99)	-.003 (-.36)	-.057 (-.70)	.070 (.84)
LEV	.021 (1.04)	.030 (.98)	.058* (1.96)	.062 (1.43)
MTB	-.005* (-1.96)	.003 (1.14)	.003 (.08)	-.002 (-.28)
AGE			-.072 (-1.21)	-.036 (-1.25)
LISTED	-.029 (-.46)	.058 (1.42)	-.059 (-.75)	.062 (1.48)
RSIZE	-.003 (-.47)	-.009* (-1.91)	.007 (.18)	-.032** (-2.56)
CRISIS	.123* (1.84)	-.001 (-.03)	.198 (1.44)	.004 (.12)
F_FIRM* CONCENTR	-.083 (-1.11)	.024* (1.85)		
F_FIRM* DIVERSIF	-.230*** (-3.74)	.061 (.99)		
F_FIRM* INTERNAT	-.060 (-.97)	.027* (1.81)		
F_OWN* CONCENTR			-.342 (-.31)	.520 (1.31)
F_EXE* CONCENTR			.273 (.86)	.117* (1.72)
F_OWN* DIVERSIF			-2.625 (-1.35)	1.729** (2.18)
F_EXE*DIVERSIF			.418 (1.27)	.095 (.38)
F_OWN* INTERNAT			-.176 (-.41)	.364 (1.15)
F_EXE* INTERNAT			.186 (1.10)	.100 (.59)
Intercept	.145* (1.70)	-.184** (-2.03)	.100 (.42)	-.248 (-1.56)
N	244		128	
R²	.1142	.1213	.2710	.4114

Note: "t" values in parentheses
***, **, * denote significance at the 1%, 5% and 10% levels, respectively. Robust standard errors clustered by both company and time are used

5. DISCUSSION AND CONCLUSION

Firms' family nature, such as FI degree, aids understanding of companies' strategic behavior. Given the special connotation of agency conflict in FFs (Chrisman et al., 2004; 2007), our study aimed to investigate if the aforementioned FFs' peculiarities affect their acquisition behavior as well as post-acquisition performance in the Italian context, in a

period in which the financial crisis occurred. In order to deepen our analysis, we considered an issue that has been less detailed in previous studies: strategy type (diversifying, integrated, and cross-border M&As).

First, we guessed whether FFs have a different acquisition propensity to NFFs. After selecting the GLLAMM approach for its stronger methodological power, we found that over the threshold of just one

M&A, FFs realize a lower number of M&A than NFFs. This result is aligned with other authors' empirical evidence demonstrating a lower propensity for M&As by FFs (e.g. Miller et al., 2010; Caprio et al., 2011).

Our analysis suggests that the family business model facilitates pursuing family goals oriented toward the preservation of firms (Shepherd & Zahra, 2003) and SEW (Chrisman et al., 2004; Gomez-Mejia et al., 2007), rather than toward the implementation of risky deals (Miller et al., 2010; Calabrò et al., 2013). In fact, the agency conflict mitigation and the family owners' and managers' entrenchment (Chrisman et al., 2007), contribute to a differentiation of the strategic behavior of FFs and of NFFs, resulting in a lower number of concluded M&As for FFs (Le Breton-Miller & Miller, 2009). An interesting result arises from the analysis of the control variables. In fact, we found that during the financial crisis years, the probability of M&A implementation decreased, except for the case of four or more M&A.

However, our analysis shows that this strategy is pursued mainly by intensive buyer companies. The results regarding the impact of FI on M&As strengthened this result. In fact, the higher is the FIO and FIM, the lower is the number of M&As (Bauguess & Stegemoller, 2008; Miller et al., 2010; Calabrò et al., 2013). This result suggests that strategic behavior is not generalizable to all FFs: FFs have different M&A propensity in relation to FI degree. In that sense, we provided empirical evidence that FI incentivizes the alignment of interests between family owners and management, thereby reducing agency conflict (Ho & Kang, 2013; Wang, 2006).

Considering M&A types, we did not find that being an FF influences the realization of different strategies, even though concentric diversification strategies are less likely to be performed by FFs. In addition, we found that a higher FIO is related to a lower probability to perform diversification and cross-border M&As. Both the literature (Menéndez-Requejo, 2005; Sciascia et al., 2012; Calabrò et al., 2013) and our theoretical arguments support the negative relationship between FIO and cross-border M&A propensity. In fact, these strategies are considered risky and in need of management expertise. Instead, our hypothesis regarding the relationship between FIO and diversification is aligned with the evidence of Caprio et al. (2011) and Anderson and Reeb (2003a). Considering the behavioral agency perspective proposed by Gomez-Mejia et al. (2007) to motivate FF strategic choices, we can explain this finding as a result of the subjectivity of risk perception, since diversification is generally considered a strategy capable of mitigating corporate risks. In that sense, FFs' strategic choices reflect the family principals' aversion to the loss of SEW. As Gomez-Mejia et al. (2010) state, the fear of SEW dilution may increase an owner's risk perception and a consequent aversion to this kind of strategy. Their findings suggesting that FFs have a lower propensity to diversify than NFFs, are aligned with those of Gomez-Mejia et al. (2007) and Berrone et al. (2010), which argue that FFs are willing to assume a higher financial risk or performance hazard in order to preserve from potential SEW losses. By introducing the performance variability, Gomez-Mejia et al. (2010) show that, due to the higher risk of failure as a consequence of the concentration of ownership in family firms, the negative relation between the family control and the overall diversification is attenuated by the increase of the business risk and of the performance hazard. International diversification, instead, is favoured in FFs only when performance hazard increases. Specifically, studies in agency theory show that the increase of family ownership promotes unrelated M&As, as this facilitates risk reduction (Miller et al. 2010). Shifting from the agency theory to the behavioural agency theory perspective, Gomez-Mejia et al. (2018) demonstrate that, when family firms operate in a vulnerability condition, they choice related M&As less than NFFs, in order to take advantage of the financial perspectives associated with these strategies.

Moreover, since our analysis shows that the higher is the family presence in the management, the lower is the probability of performing cross-border M&As, an entrenchment effect does exist, leading managers to behave as family stewards, thereby avoiding the M&A type considered risky.

Finally, although post-M&A performances do not differ when comparing FFs and NFFs, we found that a moderating role of FFs exists in explaining the impact of diversifying strategies on performance. This result does corroborate that the family business model affects the results of the implemented strategies.

Our study contributes to the literature on FFs, analysing their propensity to develop important strategies, such as M&As, in the Italian context during a period of severe financial crisis. We make a twofold contribution since our study undertakes both a comparison of FFs and NNFs and an analysis to investigate the impact of FIO and FIM on the strategic decisions of FFs. Previous studies devoted to the study of FFs' strategic behaviour have not investigated the role of the family involvement in the choice of the type of strategy to be implemented (Sraer & Thesmar, 2007; Caprio et al., 2011; Trasobares & Gorriz, 2015; Lins et al., 2013) or were settled in a different institutional context (Gomez-Mejia et al., 2018). Rossi and Volpin (2004) suggest that the M&A activity is more substantial in countries where capital markets are more developed, legal enforcement and minorities' protection are stronger and accounting standards are more effective. As a matter of fact, Italy does not belong to this group (Barth et al., Shleifer & Vishny, 1997; La Porta et al., 1999; Barca & Becht, 2001).

The comparative analysis of different types of strategies and post-M&A performance is another relevant contribution. In fact, previous studies in the field of FFs and M&As (Gomez-Mejia et al., 2014; 2018) considered FFs performances as possible determinants of the decision to acquire or not and as to which type of diversification should be implemented in a SEW perspective.

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